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EMCH, SCHAFFER, SCHAUB & PORCELLO, CO., L.PA.
P.O. BOX 916
TOLEDO, OH 43697-0916

EXAMINER	
CHOI, PETER Y	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/666,090
Filing Date: September 19, 2003
Appellant(s): LAM ET AL.

Patrick P. Pacella
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 26, 2007, appealing from the Office action mailed July 5, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

A Notice of Appeal was filed November 2, 2007, for related Application No. 10/678,599. The present application and Application No. 10/678,599 are related in scope and have common inventors.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

EP 1230897 A1	LAM	05-2002
6,875,711	CHEN	04-2005

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-3, 7-10, 12-17, and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims recite "geometrically symmetrically shaped friction modifying particles," "symmetrically shaped silica particles," "symmetrically shaped particles," "symmetrically shaped diatomaceous earth particles," "symmetrically shaped diatomaceous earth," and "substantially flat disc shape," disclosing particles by their properties and neither disclosing particles suitable for the purpose nor a process by which one of ordinary skill in the art would be able to make the claimed shaped friction modifying particles.

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 7-10, 12-17, and 28 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 1203897 to Lam, with USPN 6,875,711 to Chen cited as extrinsic evidence to show a state of fact.

Regarding claims 1-3, 7, 8, 10, 12, 14, 15, and 17, Lam discloses a friction material comprising a base material impregnated with at least one curable resin, the base material comprising a porous primary layer comprising a fibrous base material, and a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material, the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer, wherein the secondary layer comprises a mixture of carbon particles and symmetrically shaped silica particles, the carbon and silica friction modifying particles being present at about 0.2 to about 80%, by weight, based on the weight of the primary layer material, and wherein the secondary layer comprises about 20% to about 35% by weight, of symmetrically

shaped silica particles, and about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particles (see entire document including paragraphs 0001, 0024, 0025, 0059, 0060, claims 1-3).

Regarding claims 1-3, 7-10, 12-17, and 28, although the reference does not appear to explicitly teach that the shaped friction modifying particles are geometrically symmetrically shaped, Celite®, disclosed in the Lam reference, has a symmetrical shape, as evidenced by USPN 6,875,711 to Chen (column 4 line 57 to column 5 line 4).

Regarding claims 2 and 3, the primary layer material comprises fabric materials, woven and/or nonwoven materials (paragraph 0071).

Regarding clam 3, while Lam does not appear to teach that the primary layer material has a surface smoothness in the range of from about 0.02 mm Ra to about 0.2 mm Ra which smooth surface provides the friction material with consistent anti-shudder and coefficient of friction characteristics, the claimed properties are deemed to be inherent to the structure in the prior art since the Lam reference teaches an invention with a similar structural and chemical composition as the claimed invention and teaches the anti-shudder and coefficient of friction characteristics (paragraphs 0002, 0049). Properties are the same when the structure and composition are the same. The burden is on the Appellants to prove otherwise.

Regarding claims 7 and 8, the friction modifying particles cover about 3% to about 90% of the surface area of the primary layer material or substantially cover the outer surface of the primary layer material (paragraph 0059).

Regarding claim 9, Lam discloses a friction material comprising a base material impregnated with at least one curable resin, the base material comprising a porous primary layer

comprising a fibrous base material, and a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material, the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer, wherein the secondary layer comprises a mixture of symmetrically shaped diatomaceous earth particles and fully carbonized carbon particles or partially carbonized carbon particles, and mixtures thereof, and wherein the secondary layer comprises about 20% to about 35% by weight, of symmetrically shaped silica particles, and about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particles (see entire document including paragraphs 0001, 0024, 0025, 0059, 0060, claims 1-3).

Regarding claim 10, the friction modifying particles comprise about 0.2% to about 50%, by weight, of friction modifying particles, based on the weight of the primary layer material (paragraph 0059).

Regarding claim 12, the friction modifying particle size ranges from about 0.05 to about 20 microns (paragraph 0058).

Regarding claim 13, Lam discloses a friction material comprising a base material impregnated with at least one curable resin, the base material comprising a porous primary layer comprising a fibrous base material, and a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material, the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer, wherein the secondary layer comprises about 20% to about 35% by weight, of symmetrically

shaped silica particles, based on the total weight of the friction modifying particles, and wherein the friction modifying particles comprise symmetrically shaped diatomaceous earth (see entire document including paragraphs 0001, 0024, 0025, 0059, 0060, claims 1-3).

Regarding claims 14, 15 and 17, the friction material is impregnated with a phenolic resin or a modified phenolic resin or an epoxy phenolic resin, comprising about 40 to about 120% resin, by weight (paragraph 0040, 0043).

Regarding claim 16, Lam discloses a friction material comprising a base material impregnated with at least one curable resin, the base material comprising a porous primary layer comprising a fibrous base material, and a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material, the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer, wherein the secondary layer comprises 20% to 35%, by weight, of symmetrically shaped silica particles, based on the total weight of the friction modifying particles, and wherein the friction material is impregnated with a mixture of a phenolic resin and a silicone resin wherein the amount of silicone resin in the mixture ranges from approximately 5 to approximately 80%, by weight, based on the weight of the mixture, and optionally, wherein the phenolic resin is present in a solvent material and the silicone resin is present in a solvent material which is compatible with the solvent material of the phenolic resin (see entire document including paragraphs 0001, 0024, 0025, 0040, 0041, 0046, 0048, 0059, 0060, claims 1-3).

Regarding claim 28, Lam discloses a friction material comprising a base material impregnated with at least one curable resin, the base material comprising a porous primary layer

comprising a fibrous base material, and a secondary layer comprising geometrically symmetrically shaped friction modifying silica particles at least partially covering an outer surface of the fibrous base material, the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer, wherein the secondary layer comprises 20% to 35%, by weight, of symmetrically shaped silica particles, based on the total weight of the friction modifying particles (see entire document including paragraphs 0001, 0024, 0025, 0059, 0060, claims 1-3). Lam does not appear to specifically disclose that the geometrically symmetrically shaped silica friction modifying particles have a substantially flat disc shape. However, the shape limitation is deemed to be inherent to the friction modifying particles.

In the event it is shown that the Lam reference does not disclose the claimed invention with sufficient specificity, the invention is obvious because the Lam reference discloses the claimed constituents and discloses that they may be used in combination.

(10) Response to Argument

Rejection of claims 1-3, 7-10, 12-17, and 28 under 35 U.S.C. 112, first paragraph

Contrary to the current rejection, Appellants argue that the specification teaches geometrically symmetrically shaped particles suitable for the purpose of practicing the claimed invention, specifically referring to Figures 1a, 1b, 2b, 2c, 2d, and pages 18 and 19 of the specification. Additionally, Appellants argue that Examiner's statement that the specification does not disclose a process to make the claimed geometrically symmetrically shaped friction modifying particles, adds to the enablement requirement what is not required. In support,

Appellants submit that "[t]he purpose of the claims and the specification is not to explain the technology or how it works, but to state the legal boundaries of the patent grant." Further, Appellants argue that if one skilled in the art would understand the bounds of the claims when read in light of the specification, then the claim satisfies section 112.

Regarding Appellants' arguments, Examiner respectfully disagrees. Section 2164 of the MPEP sets forth the Enablement Requirement, the requirement of 35 U.S.C. 112, first paragraph. The purpose of the requirement is to ensure that the invention is communicated to the interested public in a meaningful way by requiring that the specification describe the invention in such terms that one skilled in the art can make and use the claimed invention.

Any analysis of whether a particular claim is supported by the disclosure in an application requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916). The question in that case was whether the experimentation needed to practice the invention was undue or unreasonable. Even though the statute does not use the term "undue experimentation," it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988). The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. *In re Angstadt*, 537 F.2d 498, 504, 190 USPQ 214, 219 (CCPA 1976).

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

(A) The breadth of the claims;
(B) The nature of the invention;
(C) The state of the prior art;
(D) The level of one of ordinary skill;
(E) The level of predictability in the art;
(F) The amount of direction provided by the inventor;
(G) The existence of working examples; and
(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. 112 is satisfied. *In re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970).

Appellants' invention is directed to a friction material comprising a primary layer and a secondary layer, wherein the primary layer comprises a porous fibrous material impregnated with a resin, and wherein the secondary layer comprises at least a partial coating of *geometrically symmetrically shaped* friction modifying particles, the secondary layer comprising a mixture of carbon particles and symmetrically shaped silica particles in claimed percentages.

Appellants' specification recites throughout numerous improvements which Appellants assert differentiate the claimed and disclosed friction material from the prior art. Appellants

assert in the specification that the friction material of the present invention has improved anti-shudder characteristics, high coefficients of friction, strength, porosity, wear resistance, noise resistance, "hot spot" resistance, high heat resistance, durability, and elasticity (Appellants' specification, page 1 lines 13-15, page 8 lines 13-16).

The prior art, EP 1203897 to Lam, is directed to a friction material with improved anti-shudder characteristics, strength, porosity, wear resistance, noise resistance, elasticity, allowing for more uniform heat dissipation during use of the friction material while eliminating uneven lining wear or "hot spots" (Lam, paragraphs 0002, 0038). The prior art teaches a substantially similar non-asbestos, non-metallic friction material comprising a primary layer and a secondary layer (Lam, paragraph 0001), wherein the primary layer comprises a porous fibrous base material impregnated with a phenolic or epoxy modified phenolic resin (Lam, paragraphs 0024, 0040-0043), and wherein the secondary layer comprises a coating of friction modifying particles, the secondary layer comprising a mixture of partial and/or fully carbonized carbon particles and silica particles (Lam, paragraphs 0025 and 0060) in various percentages (Lam, paragraphs 0025, 0059, 0068, claims 1-3). Although the prior art teaches that the silica particles may comprise diatomaceous earth, Celite® and Celatom®, the prior art does not appear to specifically teach the geometry, symmetry, or shape of the silica particles or Celite® or Celatom®, or in what manner the geometry, symmetry, or shape of the particles may be altered.

Appellants assert that Figures 1a, 1b, 2b, 2c, 2d, and pages 18 and 19 of the specification teach geometrically symmetrically shaped particles suitable for the purpose of practicing the claimed invention. However, the issue is not whether the specification discloses shaped particles in general, as the figures and disclosure appear to show; the issue is whether the specification

provides an adequate disclosure as to silica particles which are *geometrically symmetrically shaped* since only silica particles corresponding to the geometry, symmetry, and shape as set forth in Appellants' specification are suitable for practicing the claimed invention. The importance of the geometry, symmetry, and shape of the silica particles is apparent on page 16 lines 19-21 which teaches that "[t]he use of geometrically symmetrical shaped friction modifying particles on the primary layer provides an improved three dimensional structure to the friction material" and page 19 lines 1-4 which teaches that "[t]he geometrically symmetrically shaped friction modifying particles, while being relatively expensive, provide especially beneficial hot spot resistance and high friction stability and durability to the friction material."

Appellants' invention requires the combination of the primary fibrous layer impregnated with a resin and the secondary layer comprising carbon particles and *geometrically symmetrically shaped* friction modifying particles in order to accomplish the improvements set forth above. Since the prior art teaches a substantially similar structure and composition as the claimed invention, it is reasonable to presume that any advantageous improvements must be directly attributed to the geometry, symmetry and shape of the silica particles. The only guidance Appellants provide in the specification as to silica particles suitable for the purpose of the claimed invention is found on page 7 lines 15-17 and page 17 lines 9-10, which state that "[t]he friction modifying particles can comprise symmetrically shaped silica particles such as shaped Celite® particles" and "…[t]he friction modifying particles having a regular geometry comprise round, flat disks of Celite®." It should be noted that the Celite® particles were originally disclosed as "celite" without reference to a trademark until Appellants' amendment of August 4, 2005. Additionally, it should be noted that Appellants neither provide a disclosure of

the product trademarked as Celite® nor claim Celite® as the silica particles of the claimed invention.

Although Appellants' specification teaches that shaped Celite® particles and flat disks of Celite® may comprise the claimed friction modifying particles, the claims are considerably broader and Appellants' specification does not identify other commercial products or a method by which Celite® particles or silica particles may form the geometrically symmetrically shape. Appellants' examples do not provide a basis for the geometry, symmetry and shape of the Celite® or a method of manufacturing such geometry, symmetry and shape in silica particles in general. Therefore, one of ordinary skill in the friction material art, based on the prior art and Appellants' specification which do not appear to specifically teach the geometry, symmetry, or shape of the silica particles or Celite® or Celatom®, or in what manner the geometry, symmetry, or shape of the particles may be altered, would be unduly burdened by the requirement of necessarily either locating geometrically symmetrically shaped friction modifying silica particles or inventing a method by experimentation to form geometrically symmetrically shaped friction modifying silica particles or to invent a method by experimentation of processing silica particles to form a geometrically symmetrically shape. That is, an undue amount of experimentation would be required to make and/or use the invention within the full scope of the claims. Only then would one of ordinary skill in the friction material art be able to experiment with the found or formed silica particles to further manipulate the characteristics (size and shape) of the geometrically symmetrical shaped friction modifying particles in order to form the claimed invention having the improved properties set forth in Appellants' specification.

Appellants' specification does not appear to teach the claimed shaped friction modifying particles suitable for the purpose of practicing the claimed invention or a method of forming, manipulating or processing particles such that the particles would be geometrically symmetrically shaped. Therefore, as the geometry, symmetry, and shape of the silica particles appears to be the crux of the claimed invention, one of ordinary skill in the friction material art, when viewing Appellants' disclosure, would be required to either locate a geometrically symmetrically shaped friction modifying silica particle or experiment with silica particles in order to form a geometrically symmetrically shaped friction modifying silica particle suitable for the claimed invention. For the reasons set forth above, the claims remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

Rejection of claims 1-3, 7-10, 12-17, and 28 under 35 U.S.C. 102(b), or alternatively under 35 U.S.C. 103(a) as obvious over, Lam, with USPN 6,875,711 to Chen cited as extrinsic evidence to show a state of fact.

Contrary to the current rejection, Appellants argue that Lam does not disclose a secondary layer comprising "about 20% to about 35%, by weight, of symmetrically shaped silica particles, or about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particle." Additionally, Appellants argue that Examiner has failed to establish any basis supporting the conclusion that the shape limitation is inherent to the friction modifying particles.

Regarding Appellants' arguments, Examiner respectfully disagrees. First, it should be noted that Appellants argue specifically that Lam does not disclose a secondary layer comprising "about 20% to about 35%, by weight, of symmetrically shaped silica particles, *or* about 65% to

about 80%, by weight, carbon particles, based on the total weight of the friction modifying particle." The claimed invention requires *both* about 20% to about 35%, by weight, of symmetrically shaped silica particles, *and* about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particle.

Second, Lam appears to teach the claimed secondary layer. As set forth above, Lam is directed to a friction material with improved anti-shudder characteristics, strength, porosity, wear resistance, noise resistance, elasticity, allowing for more uniform heat dissipation during use of the friction material while eliminating uneven lining wear or "hot spots" (Lam, paragraphs 0002, 0038). The prior art teaches a substantially similar non-asbestos, non-metallic friction material comprising a primary layer and a secondary layer (Lam, paragraph 0001), wherein the secondary layer comprises a coating of friction modifying particles, the secondary layer comprising a mixture of partial and/or fully carbonized carbon particles and silica particles (Lam, paragraphs 0025 and 0060) in various percentages (Lam, paragraphs 0025, 0059, 0068, claims 1-3). The prior art teaches that the silica particles may comprise diatomaceous earth, Celite® and Celatom®.

The claimed invention is directed to geometrically symmetrically shaped silica particles and carbon particles in claimed percentages *based on the total weight of the friction modifying particles*. Appellants appear to contend that the Lam reference does not specifically teach the claimed percentages of particles comprising the secondary layer.

Paragraphs 0025, 0059, and 0060 of Lam disclose and suggest that the amount of friction modifying particles can comprise from 0.2 to about 20% or about 2 to about 15%, by weight, of the fibrous base material. Further, the secondary layer may comprise silica particles such as

Celite® friction modifying particles, and partial and/or fully carbonized carbon particles, wherein the silica friction modifying particles may comprise about 2 to about 5% by weight, *based on the weight of the fibrous base material*. Support for these limitations is disclosed in paragraphs 0025, 0059, 0060, 0068, and claims 1-3 of Lam.

If the secondary layer comprises friction modifying particles, and the friction modifying particles may comprise silica particles and carbon particles, wherein the silica particles comprise about 2% to about 5% by weight of the layer based on the total weight of the base material, then Lam discloses and suggests that about 10% to about 13% of the secondary layer may comprise non-silica friction modifying particles, such as carbon particles. Converting the weight percentages based on the weight of the fibrous base material, as Lam teaches, to weight percentages based on the total weight of the friction modifying particles, as the claimed invention claims, silica particles may comprise about 13% to about 33% and carbon particles may comprise about 67% to about 87%, by weight, of the secondary layer based on the total weight of the friction modifying particles.

Additionally, it would have been obvious to one of ordinary skill in the friction modifying art to optimize the amount of silica friction modifying particles and carbon particles comprising the secondary layer since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and Lam clearly discloses or suggests the weight percentages within the claimed percentages. In the present case, one of ordinary skill in the friction material art would be motivated to optimize the amount of friction modifying particles and carbon particles comprising the secondary layer, motivated by the desire of forming a conventional friction material with

improved anti-shudder characteristics, strength, porosity, wear resistance, noise resistance, elasticity, allowing for more uniform heat dissipation during use of the friction material while eliminating uneven lining wear or "hot spots," and since Lam clearly discloses that the silica particles are intended to comprise a percentage of the total friction modifying particles in order to achieve the desired characteristics.

Regarding Appellants' argument that Examiner has not established that the shape limitation is inherent to the friction modifying particles, Examiner respectfully disagrees. As set forth above, Appellants have failed to disclose silica particles suitable for the purpose nor a process by which one of ordinary skill in the art would be able to make the claimed geometrically symmetrically shaped friction modifying particles.

Appellants' invention requires the combination of carbon particles and *geometrically symmetrically shaped* friction modifying particles in a secondary layer in order to accomplish the improvements set forth above. Since the prior art teaches a substantially similar structure and composition as the claimed invention, it is reasonable to presume that any advantageous improvements must be directly attributed to the geometry and shape of the silica particles. Although the prior art does not teach the specific geometry, symmetry and shape of the friction modifying particles, Appellants' specification and the teachings of the prior art appear to teach substantially similar objectives which result from substantially similar inventions.

Regarding the shape of the friction modifying particles, as best Examiner can determine, the claimed geometrically symmetrical shape appears to be inherent to Celite® particles. Support for this presumption is based on the disclosures of the Lam reference and Appellants' specification. As set forth above, the objectives of the invention of Lam and the claimed

invention substantially overlap. Appellants assert in the specification that the friction material of the present invention has improved anti-shudder characteristics, high coefficients of friction, strength, porosity, wear resistance, noise resistance, "hot spot" resistance, high heat resistance, durability, and elasticity (Appellants' specification, page 1 lines 13-15, page 8 lines 13-16). The prior art teaches that the friction material has improved anti-shudder characteristics, strength, porosity, wear resistance, noise resistance, elasticity, allowing for more uniform heat dissipation during use of the friction material while eliminating uneven lining wear or "hot spots" (Lam, paragraphs 0002, 0038). Therefore, since the improvements appear to substantially overlap, and since the structures and compositions are substantially similar, and since the friction modifying particles appear to be the basis for such improvements, it is reasonable to presume that the friction modifying particles in the claimed invention and the prior art must be substantially similar.

Additionally, the prior art and Appellants' specification appear to teach substantially similar characteristics and purposes for the friction modifying particles, which as set forth above, may comprise Celite®. For example, Lam teaches at paragraph 0057 that "[t]he use of friction modifying particles on the primary layer of the fibrous base material provides a three dimensional structure to the fibrous base structure," and Appellants' similarly describe at page 15 lines 28-30 that "[t]he use of friction modifying particles as a top on the primary layer of the base material provides a desired three-dimensional structure to the base material." Additionally, Lam teaches at paragraph 0058 that "…it has been discovered that if the friction modifying particle size is too large or too small, the optimum three-dimensional structure [is] not achieved and, consequently, the heat dissipation is not as optimum," and Appellants' similarly describe at

page 16 line 30 to page 17 line 2 that "...it has been discovered that if the geometrically symmetrically shaped friction modifying particle size is too large or too small, the optimum three-dimensional structure [is] not achieved and, consequently, the heat dissipation is not as optimum." Since the Lam reference and Appellants' specification appear to substantially similar properties and purposes for the friction modifying particles, with substantially similar objectives, all of which appear to be attributed to the friction modifying particles suitable for the purpose of practicing the Lam invention and the claimed invention, it would be reasonable to presume that the geometrically symmetrical shape is inherent to the friction modifying particles such as Celite® since both the prior art and Appellants' specification teach the use of Celite®.

Additionally, support for the inherency of the shape is evidenced by USPN 6,875,711 to Chen. The Chen invention is directed to a friction material having a first layer comprising a base material and at least one resin and a friction modifying particle on a top surface. The reference filed on September 4, 2002, clearly indicates that celite particles (presumably Celite®) are useful as a friction modifying material since celite (or Celite®) typically has a symmetrical shape (Chen, column 4 line 57 to column 5 line 4) and the friction modifying particles shown in Figure 1 and labeled as **14** appear to be geometrically symmetrical. Although the Chen reference does not specifically describe the geometry of the celite or Celite® particles such that they are geometrically symmetrical in shape, for purposes of examination, celite or Celite® particles appear to be inherently geometrically symmetrical in shape, absent evidence to the contrary, which Appellants' have not provided.

Therefore, since Lam discloses a secondary layer comprising about 20% to about 35%, by weight, of symmetrically shaped silica particles, or about 65% to about 80%, by weight,

carbon particles, based on the total weight of the friction modifying particle, and since the geometrically symmetrical shape appears to be inherent to the Celite® particles disclosed in Lam, the claims remain rejected as anticipated by or obvious over Lam.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Andrew T Piziali/
Primary Examiner, Art Unit 1794

/Peter Y. Choi/
Examiner, Art Unit 1794

Conferees:

/Terrel Morris/
Terrel Morris
Supervisory Patent Examiner
Group Art Unit 1794

/Romulo H. Delmendo/
Romulo H. Delmendo
Appeal Conferee